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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,077	03/19/2004	Ki-man Kim	116511-00125	7048

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EXAMINER

BOEHLER, ANNE MARIE M

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 07/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/804,077	Applicant(s) KIM, KI-MAN	
	Examiner Anne Marie M. Boehler	Art Unit 3611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 4 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-13 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-9 and 11 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 10, 12 and 13 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3611

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oswald in view of Leonhart (USPN 3,809,004).

Oswald shows a driving device including a body 10, a frame unit 12, a pair of drive motors 30, a pair of driving wheels 24, a pair of driven wheels 22, and a chain 64 for linking drive of the drive and driven wheels. Hydraulic cylinders 286 that may act as shock absorbers are disposed on the frame to cushion movement of the frame unit.

Oswald lacks an elastic element between upper and lower supports.

Leonhart teaches a multi-wheel system with a shock absorber-spring arrangement 72 that includes an elastic element 82 between upper and lower supports 74, 76.

It would have been obvious to one of ordinary skill in the art to provide the Oswald suspension with a spring in the shock absorber assembly, as is well known and is taught by Leonhart, in order to enhance wheel contact with terrain at all times.

3. Claims 1-3, 6, 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song (PGPub 2002/0153184) in view of Oswald and Leonhart.

Song shows a robotic cleaner including a body 10, a pair of motors 15e, 15f, driving wheels 15c, 15d, and driven wheels 15a, 15b connected to the driving wheels by chain transmissions. It shows a top cover (a dome shown in Fig. 8) and a bottom 10a

Art Unit: 3611

with multiple cover elements including a disc-shaped bottom, a controller cover 18 and a suction unit cover 11, as broadly recited.

Song lacks a shock-absorbing unit.

Oswald shows a driving device including a body 10, a frame unit 12, a pair of drive motors 30, a pair of driving wheels 24, a pair of driven wheels 22, and a chain 64 for linking drive of the drive and driven wheels. Hydraulic cylinders 286, that may act as shock absorbers, are disposed on the frame to cushion movement of the frame unit. Leonheart teaches providing a spring in a shock absorber assembly, in order to ensure contact between the wheels and terrain at all times.

It would have been obvious to one of ordinary skill in the art to provide the Song vehicle with a shock absorbing unit, as taught by Oswald, including a spring, as taught by Leonheart, in order to traverse difficult terrain. It would also have been obvious to directly connect the motors to the driving wheel, in order to reduce the hardware required.

4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oswald in view of Zollinger (USPN 5,819,863) and Leonheart.

Oswald does not show the drive motors directly connected to the drive wheels and an elastic member (spring) between upper and lower supports.

Zollinger shows a vehicle with multiple driven wheels on each side of the vehicle body. A motor 170 is directly connected to each driving wheel and the driving wheel is drivingly attaché via a chain transmission to a driven wheel.

Leonheart teaches a multi-wheel system with a shock absorber-spring arrangement 72 that includes an elastic element 82 between upper and lower supports 74, 76.

It would have been obvious to one of ordinary skill in the art to connect the motor directly to the driving wheel, as taught by Zollinger, in order to eliminate hardware for connecting the motor and the driving wheel. It would also have been obvious to provide a spring in the shock absorber, as is well known and is taught by Leonheart, in order to enhance wheel contact with terrain at all times.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oswald in view of Turbowitz et al. (USPN 4,540,376) and Leonheart.

Oswald lacks saw-serrated circumferences for the wheels.

Turbowitz shows a vehicle with serrated tires 22.

Leonheart teaches a multi-wheel system with a shock absorber-spring arrangement 72 that includes an elastic element 82 between the upper and lower supports 74, 76.

It would have been obvious to one of ordinary skill in the art to provide the Oswald wheels with saw-serrated wheel surfaces, as is old and well known and taught by Turbowitz, in order to improve traction. It would also have been obvious to provide a spring in the shock absorber, as is well known and is taught by Leonheart, in order to enhance wheel contact with terrain at all times.

Art Unit: 3611

6. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 7-9 and 11 are allowed.

8. Applicant's arguments filed April 11, 2006 have been fully considered but they are not persuasive.

Applicant indicates that the allowable subject matter of claim 4 is incorporated into claim 1. However, not all of the subject matter of claim 4 has been included.

Claiming an "elastic member" between upper and lower supports is not believed to patentably distinguish over the shock absorber of Oswald in view of the spring-shock absorber of Leonheart. Spring-shock absorbers are also well known in the art.

Therefore, claims 1-3, 6, 10, 12, and 13 are not believed to be allowable.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not


Art Unit: 3611

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne Marie M. Boehler whose telephone number is 571-272-6641. The examiner can normally be reached on 7:30-5:00, Monday-Thursday, and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on 571-272-6612. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 6/26/07
Anne Marie M. Boehler
Primary Examiner
Art Unit 3611